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The Paddington Alcohol Test: the Evolution of a Pragmatic Clinical Tool

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Abstract

The Emergency Department of St Mary's Hospital Paddington, has been involved in an ongoing programme of research into alcohol misuse since 1988. It has developed its own screening tool the Paddington Alcohol Test (PAT) and was one of the first to employ a resident alcohol health worker (AHW). This article will review the history of alcohol related research in this large inner London teaching hospital and illustrate the continuing development of alcohol identification and brief advice in the Emergency Department.

Keywords

Alcohol; Screening; Paddington

In 1988 Green and colleagues (in a collaboration between the departments of Psychiatry and Emergency Medicine, St Mary's Hospital, Paddington) started work on a pilot study to determine if patients reporting to the ED would be amenable to offers of help with their alcohol consumption [1]. Over a two year period 104 patients attending the ED were identified as having an alcohol problem (0.08% of all attendees), and of these 46% attended an appointment with an ED Consultant to discuss their drinking. The authors concluded that the ED was an appropriate place to offer advice about alcohol consumption, cautioning that the rate of detection warranted further work.

The suggestion that the ED was a suitable location for the detection and referral of alcohol problems led to the appointment of an Alcohol Health Worker (AHW) in 1994. This appointment, together with the low rate of identification of patients who may be misusing alcohol, prompted Smith and colleagues to undertake further pilot work to determine how best to detect alcohol misuse within the particular environment of the ED [2].

It was noted that the screening questionnaires CAGE [3] and brief MAST [4] employed at that time did not

measure alcohol intake or provide any indication of binge drinking, rather they focused upon the symptoms of dependency. The York questionnaire, a combination of questions on binge drinking and the CAGE questions, was developed by Rowland et al [5], and successfully employed in the ED of the Royal London Hospital by Barrett & Vaughan Williams [6]. Smith and colleagues noted that this measure still took over two minutes to administer and felt that this was too long ~ if every patient attending the ED was screened this would account for almost 40 hours per week, roughly equivalent to the clinical workload of one additional Senior House Officer.

Smith and colleagues therefore developed a questionnaire that explored peak alcohol consumption, frequency of binge drinking and whether the patient thought that their visit to the ED was related to alcohol. This three item questionnaire took less than one minute to administer, became known as the Paddington Alcohol Test (PAT), and was published in 1996 [2]. The PAT was piloted in the ED over a one year period, during which time 335 patients were detected and referred to the AHW (0.63% of all attendees). The new questionnaire had resulted in an eight fold increase in referrals, but this was still low in comparison to the number of patients that were supposed to have been screened (~53000). Nonetheless the number of referrals generated by the use of the PAT (335, of which 202 attended for counselling) was sufficient to justify the appointment of a part-time AHW.

Smith and colleagues found that the PAT was not being applied to every patient; doctors were concerned that the additional time taken to ask questions about alcohol consumption, and subsequent referral process where applicable, would result in an unacceptable delay; in addition they simply forgot, within the peripatetic and frenetic environment of the ED, to screen for alcohol misuse: clinical inertia ("a failure of health care providers to initiate or intensify therapy

when indicated" [7]), finding that doctors do not have time to screen for alcohol misuse. To counteract this, newly recruited Senior House Officers (who administered the majority of PAT questionnaires) were given an hour of education on alcohol misuse, and required to submit five completed PATs within their first week. Subsequent PAT usage was monitored and recorded. Once per month an ED consultant reviewed this 'league table' and provided appropriate feedback and reinforcement to staff.

Having proved that the use of the PAT could detect many more alcohol misusing patients than previous measures, and that ED clinicians could refer such patients on to a specialist AHW, the next logical endeavor was to determine the efficacy of such an intervention. In the first ever report on brief intervention for alcohol misuse from a UK ED [8] the 202 patients from the previous study [2] who actually attended the AHW appointment were followed up six months after their initial counseling session. The researchers (two medical students) managed to make contact with 71 patients (35%) who then completed a self report questionnaire. Of those followed up, 65% stated that they were drinking less alcohol than they were six months previously.

The findings from Wright et al were encouraging, however the high rate of loss to follow-up and lack of a non-intervention control group detracted from the positive message of this study. This pilot study served to highlight the problems associated with such work and to stimulate further work.

The introduction of this new process (PAT screening leading to an AHW referral) to an ED is not without its problems. It is likely that the success of such a system may be due, in part, to the attitude of the clinician that is asked to deliver the procedure. Over a five year period Huntley et al surveyed the attitudes of the junior doctors towards their use of the PAT and found a positive commitment towards screening and brief intervention and an awareness of the importance of the early detection of alcohol misuse [9].

Huntley and colleagues went on to examine ways to assess and improve the use of the PAT. "Improving detection of alcohol misuse in patients presenting to an accident and emergency department" was published in 2001 and described a prospective study of the effect of audit, education and on-going feedback of the screening practices of junior doctors. Over a four month period data was collected on the screening practices of a complete team of 13 junior doctors. In the

first month the doctors screened as per normal practice, however in months two and three individual feedback was provided. This feedback detailed the number of patients that should have been screened compared to the actual number that had been screened. In the fourth month of the study feedback ceased, but data was still collected without the knowledge of the junior doctors [10]. During the course of this study 1761 patients met inclusion criteria, and of these 1062 (60%) were deemed as PAT possible (i.e. they should have been screened). During the first month of the study 38.5% of PAT possible patients were screened, and when feedback was instigated during month two, this figure significantly increased to 60.4%, and further increased in month three to 78.3%. When feedback was withdrawn in month four, the rate of screening fell back to 67.4%.

The Huntley study demonstrated the value of ongoing feedback in maintaining the screening process. Additionally, Huntley and colleagues examined the relationship between patients presenting conditions and PAT status (PAT positive patients are deemed to be hazardous drinkers) and introduced the concept of 'selective screening' using the PAT. It was accepted that not all patients could be screened, thus screening should be directed towards patients to whom there was the likelihood that alcohol misuse could be an issue (e.g. those who present following a fall or head injury). The PAT employed in the study included an appendix of 26 presenting conditions that warranted screening. After study data had been collected it was found that 77% of all PAT positive presentations (and 60% of all adult ED attendances) were accounted for by ten of these presenting conditions, and the PAT was further refined to focus this selective screening on those "top ten" presenting conditions [10,11]; it should be noted that the clinician remained free to apply the PAT to any patient whom they had a clinical suspicion of an alcohol related presentation.

An earlier version of the PAT was validated against AUDIT as a gold standard [12] finding sensitivity of 70.0% and specificity of 84.5% however the version of PAT assessed (1996) [2] was outdated and did not account for modifications designed to make it both faster to administer and more reliable [10]. It should also be noted that the unit threshold for PAT positivity (in that study) was 10+ units for males, whereas the FAST threshold was 8+. This difference in thresholds may partially explain the differences in sensitivity and specificity between the two measures. Patton et al explored the concordance between the PAT (2001

version) and the AUDIT, finding a sensitivity of 96.9% and specificity of 67.6%, and then applied further modifications to the questionnaire (introducing a monthly rather than weekly limiter for excessive consumption, in line with the AUDIT) [13]. The introduction of this change helped to increase Specificity (now 97.3%) with a slight reduction in Sensitivity (now 88.2%). A further change to the PAT (2003 version) was the introduction of health consequences feedback for the PAT +ve patients "We suggest that you are drinking at a level that may be harmful to your health", which was then followed by an invitation to attend an appointment with an AHW. An evaluation of the effect of this feedback showed that patients were significantly more likely to accept the offer of help or advice as compared to when feedback was not provided [14]. The PAT itself has been further refined with the addition of comprehensive notes about how it should be applied [15]. A modified version of the PAT was also developed for use in the SIPS Trailblazers projects [16].

Conclusions

The PAT is an evolving clinical tool that reliably identifies patients presenting to the Emergency department who would benefit from further help or advice about their drinking. The effectiveness of the "St Mary's Model" – identification of hazardous / harmful drinking using the PAT followed up by an AHW appointment, has been tested in a large RCT (the REDUCE study) that compared AHW referral to the receipt of an alcohol information booklet. Published in the *Lancet*, the results provided evidence of a significant reduction in both alcohol consumption and ED attendances for those participants who had received the AHW referral [17] with further evidence of the cost effectiveness of the model also shown in a concurrent economic evaluation [18]. Further exploration of the data from the REDUCE study provided additional information on the characteristics of patients who accepted help or advice, and those who attended their AHW appointment [19, 20]. Recent work in the ED has also explored the use of BAC testing on patients who are unable to complete the PAT [21, 22], and on the utilization of the "St Mary's Model" on the reduction of deliberate self harm [23].

In conclusion, the Paddington Alcohol Test remains a useful measure for busy ED clinicians to identify hazardous / harmful drinkers. One aspect of the PAT that sets it apart from other measures is its requirement for the patient to consider whether their

attendance is related to their alcohol consumption. This in itself could act as the briefest of brief interventions, and may well provide motivation for behavioral change, even in the absence of a formal intervention. A recent survey of alcohol screening and brief intervention activity in English EDs noted that the PAT was the alcohol identification measure of choice, utilized by 40.5% of all departments [24]. Its' enduring popularity, despite the availability of other brief screening questionnaires, suggests that this pragmatic tool, designed and developed by clinicians for clinicians, remains the best choice for the identification of hazardous and harmful drinkers in the Emergency Department.

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Author Introduction

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